

Attorney Docket No. SABI-30145 (STC-03-0008)
 Application No. 10/675,780
 Amendment and Response

In the Specification

Please replace paragraphs 0016 and 0018 with the following replacement paragraphs, which have been marked to show all changes.

[0016] As used herein, the expression "ZSM-5-type" is meant to refer to those zeolites that are isostructurally the same as ZSM-5 zeolites. Additionally, the expressions "ZSM-5" and "ZSM-5-type" may also be used herein interchangeably to encompass one another and should not be construed in a limiting sense. As used herein, catalytic activity can be expressed as the % moles of toluene converted with respect to the moles of toluene fed and can be defined as:

$$\text{Mole\% Toluene Conversion} = [(T_i - T_o) / T_i] \times 100 \quad (T_i - T_o / T_i) \times 100 \quad (2)$$

where, T_i is the number of moles of toluene fed and T_o is the number of moles toluene unreacted. As used herein, selectivity for total xylenes may be expressed as:

$$\text{Mole\% Total Xylene Selectivity} = [X_{tx} / (T_i - T_o)] \times 100 \quad (X_{tx} / T_i - T_o) \times 100 \quad (3)$$

where, X_{tx} is the number of moles of total (o-, m- or p-) xylenes in the product.

As used herein, selectivity for p-xylene may be expressed as:

$$\text{Mole\% p-Xylene Selectivity} = (X_p / X_{tx}) \times 100 \quad (4)$$

where, X_p is the number of moles of p-xylene.

[0018] The water or steam used for the methylation reaction may be introduced with or without hydrogen as cofeed with the hydrocarbon feed (HC = toluene + methanol) to the reactor during the start up of the alkylation reaction or it may be introduced subsequent to initial start up. The invention has particular application in toluene methylation reactions using the described catalysts that have high selectivity for p-xylene. In particular, selectivity for p-xylene may be from about 80%, 85%, 90% or 95% or more by total

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moles of xylene. Unless stated otherwise, all percentages for conversion and selectivity are in mole %.